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Ohio Corn Performance Tests and Recommendations 1942

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Cooperating with

20 Ohio seed growers and county seed improvement associations, the Division of Cereal Crops and Diseases, Bureau of Plant Industry, Agricultural Research Administration, United States Department of Agriculture, and the Agricultural Extension Service, The Ohio State University

OHIO AGRICULTURAL EXPERIMENT STATION
WOOSTER, OHIO

OHIO CORN PERFORMANCE TESTS AND RECOMMENDATIONS, 1942

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INTRODUCTION

This circular presents the fifth annual report of the Ohio Cooperative Corn Performance Tests[3] and recommendations of corn hybrids for use in 1943. It reports acre yields of grain and other plant responses from 28 tests in 27 counties for 1942. There were to have been 33 tests, 20 conducted by farmers or seed growers working with their county agents and 13 on Experiment Station, University, and District and County Experiment Farms. However, one cooperator failed to get his test planted, and four tests were discarded because of variable growth conditions within them.

The 1942 growing season was one of plentiful rainfall and favorable corn weather and was the most productive corn year of Ohio's agricultural history. The estimated average acre yield for the State was 55 bushels, as contrasted with a previous high of 50 bushels in 1939. Only the tests in Wayne and Tuscarawas Counties suffered seriously from drought.

As a whole, the corn performance test plots were on better than average fields.

EXPERIMENTAL PROCEDURE

TEST DIVISIONS

The 33 tests planned were distributed into 9 divisions. The term "division" is used instead of the previous term "group" to avoid confusion with the term "maturity group" as applied to hybrids. Divisions were lettered in the approximate order of the effective lengths of growing season. A was the shortest; L, the longest. Tests within a division contained the same 30 entries, but the distribution of entries within the plantings was different in each test.

THE FIELD DESIGN

The 30 entries in each test were compared in 2- by 10-hill plots replicated 5 times and laid out in a modified Latin square of 5 ranges (30 plots side by

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[2]The writers are much indebted to the many farmers and seed growers who generously contributed land, fertilizers, labor, and personal efforts in conducting these tests; to the Division of Plant Industry, State Department of Agriculture, for collecting the samples of Ohio certified and privately controlled hybrids; to the county agricultural agents for help with arrangements and other details; to the assisting personnel at the Experiment Station, The Ohio State University, and on the outlying District and County Experiment Farms for invaluable help in harvesting, computations, typing, and other details; to L. L. Huber, Associate Entomologist, Ohio Agricultural Experiment Station, for consultation on the degree of insect damage in the tests; to D. H. Bowman, Assistant Plant Pathologist, Ohio Agricultural Experiment Station, and Division of Cereal Crops and Diseases, Bureau of Plant Industry, for consultation on the degree of disease injury in the tests; and to M. T. Jenkins, Principal Agronomist, Division of Cereal Crops and Diseases, Bureau of Plant Industry, and R. E. Yoder, Chief in Agronomy, Ohio Agricultural Experiment Station, for valuable criticisms of the manuscript.

[3]Previous reports were Ohio Agricultural Experiment Station Agronomy Mimeograph No. 50, 1938; Special Circulars 59, 1939; 61, 1941; and 64, 1942.

side) and 5 columns (6 plots wide by 5 plots long) at right angles to the ranges. Each entry was placed at random once in each range and once in each column.

RATE OF PLANTING

Four seeds were planted per hill, to avoid thinning. In previous years, six seeds had been planted per hill in two jabs of three each, and the seedlings had been thinned to as nearly a uniform stand of three per hill as possible. There is no convincing evidence that one of these methods is really better than the other. More nearly uniform stands are obtainable with thinning, but it may result in differential injury to the entries and injurious cultivation because of poor alignment of plants in the rows. Also, poorer plants rather than average are likely to be removed in thinning, a condition that tends to favor the entries needing most thinning. The nonthinning method requires less labor and subjects plants to a minimum of mechanical disturbance.

The planting rate of four seeds per hill was used because at the thicker rates, plot yields are much less influenced by variations in stand than they are at thinner rates. In a 21-year experiment on rate of planting open-pollinated corn on productive soil at Wooster, a five-plant rate differed from a four-plant rate by yielding only 1.2 per cent lower; the four-plant rate exceeded a three-plant rate by 5.9 per cent; the three-plant rate exceeded a two-plant rate by 22.7 per cent; and the two-plant rate exceeded a one-plant rate by 60.8 per cent. The row spacing was 42 by 42 inches. Obviously, slight variations in stand become very important if the average stand drops much below three plants per hill. With viable seed and favorable conditions for germination, an average stand of three to three and a half plants per hill usually will result from the planting of four seeds.

TREATMENT OF SUBNORMAL STANDS

If missing plants were distributed uniformly, stand corrections would be far less complicated than they are. With a double planting rate followed by thinning, an attempt can be made to distribute a stand over a plot. If a hill is destroyed before thinning, additional plants can be left in adjacent hills. Such practices are not possible with the method used in 1942, and hence stand corrections were made only for missing hills.

Missing hills and one-plant hills were counted by Experiment Station personnel during August and early September. For purposes of correction, two single-plant hills were taken to be equivalent to one missing hill. A plot was discarded if it had more than the equivalent of four missing hills; more than the equivalent of two successive adjoining missing hills (adjoining either lengthwise or crosswise of the plot); fewer than 54 plants per plot after correction for missing hills, assuming 3 plants per missing hill. An individual row was discarded if adjacent to three or more missing hills in the nearer row of the next plot.

Field ear weights were corrected for missing hills by the following formula:

$$CW = FW \times \frac{H - 0.3\ M}{H - M}, \text{ where:}$$

CW = corrected weight
FW = field weight
H = number of hills per plot
M = number of missing hills

Use of this formula assumes that a missing hill results in a reduction in plot weight approximately equivalent to only 0.7 the weight of an average hill. The adjacent hills make up the other 0.3 because of the lessened competition.

Any correction for unequal stands involves assumptions which may or may not be right for a specific case. The assumptions from which the methods described were derived are based on actual field studies and generally are nearer the truth than an assumption that no correction should be made.

COMPUTING ACRE YIELDS AND MOISTURE CONTENT

Acre yield and dry matter content of ear corn at harvest were computed from corrected field weights of ear corn and the moisture content of the grain. The moisture sample consisted of two kernel rows shelled from each ear husked from three systematically chosen hills in each plot. A table prepared by the Iowa Agricultural Experiment Station showing the relation between moisture content of grain, moisture content of the ear, and the pounds of ears required to make a bushel of shelled grain at 15½ per cent moisture was used for computations of plots having grain moisture contents of 10 to 40 per cent. An extension of the Iowa table based on Ohio data was used for plots having higher moisture contents. Comparisons made by the Ohio Station have shown that this short method gives results closely comparable to those determined by more laborious procedures.

SILKING DATE

Mid-silking dates (median silking dates) were based on actual counts. The experiments were inspected periodically, usually on alternate days, and when it appeared from observation that approximately half of the plants in a given plot were silking, the plants showing silks were counted. Each plot was counted only once, and if the percentage of plants actually in silk at the time of the count differed from 50 per cent, the date of 50 per cent silking was set earlier or later, depending upon whether fewer or more than 50 per cent of the plants were showing silks. The following corrections suggested by Meyers[4] were added to or subtracted from the date on which the stated percentages of plants were observed in silk, to estimate the actual mid-silking date:

Add or subtract from the date of record	when the percentage of plants is—	
	below	above
1 day	42	58
2 days	29	71
3 days	19	81

LODGING

The number of plants lodged because of failure of their roots to hold them erect, and the number of plants broken below the ear were counted just before harvest.

CONTROL STRAINS

Presenting in one table the results of competing strains ranging from early to late makes interpretation difficult because of the advantage usually held by late or medium late entries. An attempt was made to cope with this

[4]Meyers, M. T. 1930. Determining date of silking in experiments with corn. Journal of the American Society of Agronomy 22: 280-283, illus.

problem by including seven of the following hybrids as control strains in each test division. The silking date index shown in parentheses is a measure of relative (not actual) silking date as determined in previous years' experiments:

> Ohio M20 (95.6), M15 (96.1), M34 (96.2), K24 (97.3), W46 (98.0), W54 (98.8), C38 (99.3), C12 (102.3), C92 (102.5), C88 (102.6), U. S. 13 (104.8)

Ohio M20 to Ohio C38, inclusive, were the control strains in Test Division A.

Ohio K24 to Ohio C88, inclusive, were the control strains in Test Divisions B, C, D, and E.

Ohio W46 to U. S. 13, inclusive, were the control strains in Test Divisions F, G, and K.

No control strains were designated for Test Division L because of insufficient previous information on the material to be tested.

The relation of grain yields of the control strains and maturities (length of growth period) as expressed by silking date was computed and expressed graphically by a segment of a parabola, a rectilinear regression, or a freehand curve (fig. 1-9). The average grain yields and silking dates for the control strains in each test division were used for this computation.

The expected acre yield of any entry was taken to be the value indicated for the entry's corresponding silking date by the line fitted to the data on the control strains. The plus and minus values in the third column of tables 2 through 10 indicate the grain yield of the corresponding hybrids above expected if plus and below expected if minus. These values were arrived at by graphic determination.

The effect of maturity on grain yield is not necessarily a simple additive one in which the later strains yield more grain directly in proportion to their longer seasonal requirement. Obviously, some strains may be too late to complete grain filling before growth is stopped by low temperature. Conceivably, the total effect of the environmental influences in any one test could be either favorable or unfavorable for any of the maturity groups, from the earliest to the latest.

These considerations suggest that the typical relation of acre yields to silking dates is more nearly curvilinear than rectilinear. Many types of mathematical curves can be computed for data of this type, and the best argument in favor of any one is that it fits. The simple parabola seemed to fit the data in most of the test divisions as well as could be expected, considering the small number of coordinates and the variability characteristic of acre yield and silking date determinations. The simple parabola was selected with the reservation that in cases where its fit was obviously bad, a freehand curve or a rectilinear regression would be substituted.

Only hybrids which had shown high yielding capacities in previous experiments were selected as control strains. It was thus deliberately planned to set a high standard of competition for all entries. It follows that control strains were used in an attempt to evaluate each entry in terms of other highly productive entries having essentially the same seasonal requirement. It is not assumed that silking dates reflect total seasonal requirements with more than approximate accuracy. Nevertheless, the writers place more emphasis on the third column of tables 2 through 10 than on the second column in their evaluation of the entries.

There is no denial that the plus and minus values in the third column of the summary tables represent largely a personal interpretation of the data. Neither can it be denied, however, that a personal element is involved in presenting bare yield values on a personally selected group of entries tested in a personally selected location without assistance to the reader in evaluating the relation of yield to length of growing season. The erroneous assumption that absolute yields reflect the value of the entries is seldom stated but often implied and too often made. Interpreting agronomic data is more difficult than accumulating them.

Corrections cannot be attempted for some factors, apart from heredity, which affect yields. A few hybrids in these tests very probably made poorer than normal records because the specific lot of seed used was too weak to permit the plots to start off with a normal stand of vigorous seedlings. The seed lot, as well as the germ plasm, was on trial.

DISCARDED ENTRIES

If more than two plots of any entry in a test had to be discarded, the entry was dropped from the test. Even though a strain was dropped from part of the tests in a test division, it still appears in the summary table. Values for its performance in yield, silking date, and dry matter in ears at harvest in the test from which it was dropped were estimated by solving for S′ in the following formula: $\frac{S}{C} = \frac{S'}{C'}$, where S = the average performance value for the strain in the tests from which it was not dropped, C = the average performance value for the control strains in the same tests, and C′ = the average performance value for the control strains in the test from which the strain was dropped. No attempt was made to compute lodging values where strains were dropped.

THE SIGNIFICANCE OF DIFFERENCES

One of the reductions in work demanded by the reduced working force in 1942 was the deletion of statistical analyses of the data from these Cooperative Corn Performance Tests. In past seasons, however, analyses have been made of 100 field experiments having the same field design as in 1942. The previous tests contained only 20 instead of 30 entries, a fact which would tend to make their error a little smaller. The different method of planting also might affect the error slightly. The average of the residual mean square variance values for the 100 tests was taken as the most likely residual mean square variance for any one of the 1942 tests. Computing from this average, the difference necessary for significance, assuming odds of 19 to 1 against the difference being due to random error, is a value of 9 bushels. Nine bushels is taken, therefore, as the minimum difference necessary for significance between acre yield values in any one test. For the means of two, three, four, or five tests (column 2 in the summary tables), the minimum necessary difference becomes 6.4, 5.2, 4.5, or 4.0, respectively. Interaction of entry with location would not be included as error in these estimates.

CORN STRAINS TESTED

TABLE 1.—Classification of material included in the 1942 Ohio Cooperative Corn Performance Tests

Material	Corn strains	Entries
Ohio experimental hybrids	44	252
Experimental hybrids from U. S. Department of Agriculture and other experiment stations	19*	51
Ohio certified hybrids	21	254
Other certified hybrids	9	56
Privately controlled hybrids	34	197
Open-pollinated varieties	4	27
Totals	131	837

*Includes 4 Indiana hybrids, 3 Kentucky hybrids, 2 Michigan hybrids, and 10 U. S. hybrids.

The seed for Ohio certified hybrids and for the privately controlled hybrids in Test Divisions B and K was obtained from trade channels by the Division of Plant Industry, Ohio Department of Agriculture. Other samples were obtained from seed producers and corn breeders.

COMMENTS ON THE SEPARATE TEST DIVISIONS

Serious yield reductions from such environmental factors as drought, excess water, weeds, early frosts, insect attack, and disease attack were absent unless specifically mentioned in the remarks to follow. European corn borers could be found in all the western Ohio tests, including those in Hamilton County. Only in the Van Wert test, however, was the infestation heavy enough to affect strain yields differentially.

Test Division A is unique among the nine because of the general downward trend in yield as the entries are later. Wet weather necessitated late planting of the Trumbull test, and low temperatures in September stopped growth of the later strains before full maturity. A number of plots had to be discarded because of water injury. The Mahoning test was harvested late in November and thus provided an opportunity to get excellent counts on stalk breakage.

Test Division B was conducted entirely on State and County Experiment Farms. Adverse factors from the uniformity standpoint were pigeon injury in the Franklin test and excess water at Paulding. A July and August drought reduced yields in the Wayne test. As a whole, however, the conditions for testing were satisfactory.

The high yields in Test Division C indicate excellent growing conditions. Excess June rains created a weed problem in the Shelby test, but hoeing apparently minimized the damage. The extension of the parabola leftward beyond the earliest control strain reduces the confidence that can be placed in the expected yields in that part of the graph (fig. 3).

Test Division D includes highly contrasted conditions for plant growth. The Tuscarawas test suffered heavily from drought. Growing conditions were generally favorable in the Mercer test and unusually favorable in the Licking test.

Growth conditions were very good and were uniform within the Division E tests.

The Van Wert test in Division F was the only one of the 28 in which European corn borer damage reached commercial proportions. In spite of high yields, there was a loss, and the grain quality of the more susceptible strains was poor. The Hancock test suffered somewhat from overwetness early in the season. It had no direct application of fertilizer or manure, whereas the Van Wert test had been heavily fertilized. Some strains appear to have what is required to yield near the top in either of these highly different circumstances.

Test Division G represents an important corn-producing area of southwestern Ohio and one in which leaf blight has recently caused much concern. Leaf blight infection appeared early in the Fayette test. It doubtless affected yields there and probably affected them to a lesser extent in the Madison test. Water stood on part of the plots in the Darke test, necessitating their being discarded. For the Division as a whole, the control strains failed to take their expected sequence in time of silking. The parabola was obviously a misfit, and so a rectilinear regression was computed for acre yield in relation to silking date. It is unfortunate that the spread in the silking dates of the control strains did not coincide more nearly with that of the entries as a whole (fig. 7).

Test Division K was conducted entirely on State and County Experiment Farms. Yields may have been somewhat reduced by blight in the Meigs test but not in the others. Moles injured a few plots in the Hamilton test, and moles and water damage injured a number of plots in the Meigs test. As a whole, growth conditions were very favorable. The rectilinear regression was used to estimate the relation of acre yields to silking date. The parabola was obviously a misfit. Some later strains were needed among the controls.

The entries in Test Division L averaged much later than in any of the other divisions. No control strains were used because of insufficient previous information on what to use. Strains susceptible to leaf blight suffered heavily, especially the earlier ones. Some of the later strains were still in the grain-filling period when killed by low temperature. These conditions complicated the yield-maturity relation. Neither the parabola nor the rectilinear regression would come close to fitting it. A freehand curve was used (fig. 9). Since in other divisions the entries have been measured by control strains previously selected for high yield in Ohio, the freehand curve was drawn about 2 bushels per acre higher than it normally would have been (fig. 9).

CORN HYBRIDS AND THE CORN CROP

The inclusion of representative open-pollinated varieties in the tests and the yield comparisons based upon comparable maturities give convincing evidence that the widespread use of well-adapted corn hybrids has contributed importantly to the 1942 bumper crop. According to a preliminary estimate made by the United States Bureau of Agricultural Economics,[5] 83 per cent of Ohio's 3,350,000 corn acres, or an actual 2,780,000 acres, were planted to hybrids in 1942. Not all, but the major part, of these 2,780,000 acres was planted to hybrids that have made a good or reasonably good showing in the tables reported here. Open-pollinated corn in 27 tests averaged 83.3 bushels per acre. The average acre yield of hybrids of the same seasonal requirement

[5]Heart of Corn Belt Adopts Hybrid Seed on Nearly 100 Percent of Acreage. U. S. D. A. Bur. Agr. Econ. Mimeo. Rpt. (unnumbered). 3 pp. Oct. 5, 1942.

as the open-pollinated corn and in the same tests was 100.1 bushels. That yield represents a gain of 16.8 bushels, or 20.2 per cent, for the use of good hybrids on good average soil. On soil that would yield only 50 bushels of open-pollinated corn per acre, the gain for good hybrids would be expected to be less in actual corn but no less in percentage. An average gain of only 8 bushels per acre on 2,780,000 Ohio acres would be a gain for hybrids in 1942 of 22,240,000 bushels. That is a very conservative estimate. Furthermore, it is not half the gain that good hybrids would have given if grown even more extensively and on soil having higher productivity levels.

The high acre yields in these tests serve to emphasize a statement previously made in a publication of this series: "With the use of good hybrids, good rotations, good soil management, and efficient cultural practices, Ohio farmers should strive for 100 bushels or more of dry shelled grain per acre in the better seasons." One of those better seasons appeared in 1942, and many farmers who diligently applied the findings of agronomic research realized their 100-bushel yields.

One of the reasons for the high yields in these tests was that the rather heavy rate of planting enlarged the capacity of good germ plasm and good growing conditions to be expressed in heavy grain yields. Of course, the ears averaged smaller because of the greater number of plants, but mammoth ears and top acre yields do not go together. Mammoth ears usually indicate inefficient use of good soil and favorable weather.

LIST OF TESTS AND GROWER COOPERATORS

Positively essential to the conduction of these tests on a comprehensive scale have been the generous contributions of personal effort and many items involving expense to the cooperating corn growers and growers' organizations. They have taken full responsibility for providing land and fertilizer; for plowing, fitting, and marking the ground; for planting after the seed had been packeted and shipped by the Experiment Station; for cultivation and hoeing; for making silk counts; and for the harvests, except for the work of a harvest supervisor, who represented the Experiment Station and the United States Bureau of Plant Industry. Keys to the identification of the entries were not given the cooperators until after September 1.

List of tests and grower cooperators

Test No.	Adaptation area	Test division	County	Cooperating group	Grower cooperator	Address
601*	1	A	Ashtabula		John R. Brown	R. 1, Austinburg
602	1	A	Trumbull		Trumbull Co. Exp. Farm	Cortland
603	1	A	Mahoning		Mahoning Co. Exp. Farm	Canfield
604	2	B	Wayne		Ohio Agr. Exp. Sta.	Wooster
605	4	B	Belmont		Belmont Co. Exp. Farm	St. Clairsville
606	5	B	Henry		Northwestern Exp. Farm	Holgate
607	5	B	Paulding		Paulding Co. Exp. Farm	Paulding
633	5 and 6	B	Franklin		Ohio State University	Columbus
608*	4	C	Knox	Knox Co. Hybrid Seed Corn Producers	J. F. Bricker & Sons	R. 1, Utica
609†	4	C	Marion	Marion Co. Hybrid Seed Corn Producers	F. A. Davidson & Son	R. 4, Marion
610	4	C	Shelby	Shelby Co. Corn Hybrid Improvement Assn.	L. E. Marrs	R. 5, Sidney
611	4	C	Auglaize	Auglaize Co. Hybrid Seed Corn Producers	C. M. Manchester	R. 1, Lakeview
612	4	D	Licking	Ohio Hybrid Seed Corn Producers	J. E. Van Fossen	Croton
613	4	D	Mercer	Mercer Co. Hybrid Corn Growers Assn.	Walter Pierstorff & Sons	R. 3, Rockford
614	4	D	Tuscarawas	Tuscarawas Co. Hybrid Corn Growers	Geo. B. Johnson	R. 1, Dover
615	5	E	Defiance	Williams-Defiance Hybrid Corn Growers Assn.	H. W. Belknap	Hicksville
616	4	E	Erie	Erie Co. Certified Hybrid Seed Corn Producers	Fries Estate Farm, Carl Greinig, Mgr.	R. 2, Huron
617*	5	E	Fulton	Northwestern Corn Hybrid Growers Assn.	Walter Stiriz	Delta
618	4	F	Hancock	Hancock Co. Hybrid Seed Corn Group	A. T. Evans	R. 3, Findlay
619*	5	F	Lucas	Northwestern Corn Hybrid Growers Assn. and Vo-Ag class, Clay High School	Donald Schilling	3434 Worden Rd., Toledo
620	5	F	Van Wert	Van Wert Corn Hybrid Assn.	Marsh Foundation, W. G. Weigle, Mgr.	Van Wert
621	6	G	Darke	Darke Co. Seed Improvement Assn.	John N. Kramer	New Weston
622	6	G	Madison	Madison Co. Hybrid Seed Corn Producers	Madison Co. Exp. Farm	London
623	6	G	Preble	Preble Co. Hybrid Seed Corn Assn.	Mason Montgomery's Sons	R. 1, Eaton
624	6	G	Fayette	Fayette Co. Seed Improvement Assn.	Harold C. Mark	R. 2, Washington C. H.
625	6	K	Miami		Miami Co. Exp. Farm	Troy
626	6	K	Meigs		Southeastern Exp. Farm	Carpenter
627	6	K	Clermont		Clermont Co. Exp. Farm	Batavia
628	6	K	Hamilton		Hamilton Co. Exp. Farm	Mt. Healthy
632	6	K	Montgomery		Southwestern Exp. Farm	Germantown
629	7	L	Hamilton		Pope Bros.	R. 2, Harrison
630	7	L	Highland		Meyers Hybrid Corn Co.	Hillsboro
631	7	L	Ross	Ross Co. Agricultural Extension Service	George C. Foster	R. 2, Chillicothe

*Test discarded because of ununiformity.
†Test not planted.

INDEX OF ENTRIES

HYBRID NUMBER	PEDIGREE	TABLES
Ohio Experimental Hybrids		
W10	(51A × Wf9) (Hy × L317)	3 to 8, inc.
C12	(Wf9 × O7) (Hy × L317)	3 to 9, inc.
W26	(Wf9 × Os420) (33 × 40B)	2
W30	(Wf9 × O7) (33 × 40B)	4, 5, 7, 8
M34	(51 × 26) (40B × O2)	2, 4
W36	(51A × Wf9) (40B × O2)	2, 4
C44-2	(40B × 187-2) (Hy × O7)	6
C50	(Wf9 × O7) (40B × Os420)	6, 7, 8
W58	(Wf9 × O7) (51A × Hy)	4, 5, 7, 8
K64	(51A × Wf9) × Os420	7
W66	(Wf9 × 40B) × Os420	7
C68	(Wf9 × Hy) × Os420	7, 8
C80	(Wf9 × O7) × Hy	8
C82	(Wf9 × 38-11) × Hy	8
C92	(Wf9 × 38-11) (Hy × O7)	3 to 10, inc.
L94	(187-2 × O7) (YS66 × L317)	10
1208	(33 × 40B) × 51A	2
1270	(40B × 28) × 51A	2
1271	(28 × I205) × 51A	2
3013	(51 × 26) (Wf9 × Hy)	2
3049	(51A × O7) (40B × L317)	6, 8
3056	(38-11 × 15-6) (O7 × 23R5)	10
3060	(Wf9 × O7) (51A × 40B)	5
3061	(Wf9 × O7) (40B × L317)	6
3063	(65 × Wf9) (40B × L317)	7
3070	(Hy × J8-G6) (38-11 × 15-6)	10
3074	(Hy × I205) (40B × 28)	4, 5
3076	(51A × Hy) (28 × 40B)	4, 5
3081	(Hy × O7) (51A × Wf9)	5, 6
3082	(40B × 38-11) (51A × CC24)	4, 5
3083	(40B × 38-11) (28 × I205)	6, 8
3084	(40B × 38-11) (O7 × I159L1)	5, 9
3085	(40B × 38-11) (51A × 28)	4, 5
3087	(O7 × L317) (I159L1 × 38-11)	8, 9, 10
3088	(O7 × I159L1) (Hy × L317)	9
3089	(O7 × I159L1) (38-11 × L317)	9, 10
3091	(Wf9 × O7) (L4 × 23R5)	9, 10
3096	(65 × O2) (33 × 40B)	2
3097	(26 × Hy) (A × CC5)	2
4001	(33 × 40B) (51A × Wf9)B[6]	2
4018	(51A × 28) (40B × 187-2)B	2
4019	(28 × Hy) (40B × 187-2)B	3, 6
4020	(28 × I205) (40B × 187-2)B	3, 6
4022	(28 × 40B) (51A × Wf9)B	2

[6]The letter "B" following a pedigree indicates that the pollen parent was a backcross, with the line listed first as the recurrent parent.

Hybrids Certified in Ohio

Ohio C14	(67 × Hy) (51 × 56)	5, 6
Ohio M15	(26 × 51) (A × CC5)	2, 4
Ohio W17	(56 × 4-8) (51 × 84)	2 to 8, inc.
Ohio M20	(51 × 26) (33 × 40B)	2, 4
Ohio K23	(26 × 51) (65 × 84)	2, 4
Ohio K24	(51A × Wf9) (33 × 40B)	2 to 7, inc.
Ohio C28	(Wf9 × Hy) (33 × 40B)	4, 6, 7
Ohio K35	(26 × Hy) (65 × O2)	2, 4, 5, 7, 8
Ohio C38	(Wf9 × Hy) (40B × O2)	2 to 9, inc.
Ohio W46	(51A × Wf9) (40B × Os420)	2 to 9, inc.
Ohio C48	(Wf9 × Hy) (40B × Os420)	4 to 8, inc.
Ohio W54	(Wf9 × 40B) (51A × Hy)	2 to 9, inc.
Ohio C76	(Wf9 × 40B) × Hy	4, 5, 7, 8
Ohio L86	(28 × L317) × Hy	5, 6, 7, 8
Ohio C88	(Wf9 × 40B) (Hy × O7)	3 to 9, inc.
Ill. 384	(A × Hy) (Wf9 × R4)	6
Iowa 939	(L289 × I205) (Os420 × Os426)	4 to 9, inc.
U. S. 13	(Wf9 × 38-11) (Hy × L317)	6 to 10, inc.
U. S. 44	(187-2 × 4-8) (Hy × 540)	6
U. S. 52	(Hy × 67) (4-8 × 540)	6
U. S. 65	(51 × 4-8) (Hy × 540)	4, 5, 6, 7

Illinois Hybrids

384	(A × Hy) (Wf9 × R4)	6

Indiana Hybrids

210B	(Wf9 × I234) (H5 × M14)	2, 3
608C	(Wf9 × Hy) (A × Tr)	5, 7, 8
610	(A × L) (Wf9 × Hy)	3, 5, 7, 8
703b	(H22 × 33-16) (K6 × H21) (white)	10
813C	(Wf9 × Hy) (38-11 × L317)	8
901b	(H22 × H23) (K6 × H21) (white) (experimental)	10
	(H21 × 33-16) (Ky. 27 × U. S. 61) (white) (experimental)	10
	(33-16 × K61) (H21 × K64) (white) (experimental)	10
	(H21 × 33-16) (K44 × K41) (white) (experimental)	10

Iowa Hybrids

939	(L289 × I205) (Os420 × Os426)	4 to 9, inc.
4059	(Wf9 × Hy) (L289 × I205)	3, 5

Kentucky Hybrids

78B	(white) (experimental)	10
203	(122 × 27) (Ind. 33-16 × 49) (white) (experimental)	10
	(122 × 58) (Ind. 33-16 × 49) (white) (experimental)	10
	(11b × 114) (27 × 49) (white) (experimental)	10

Michigan Hybrids		
24B		2
36B		2
215	(experimental)	2
237	(experimental)	2
U. S. Hybrids (Yellow)		
13	(Wf9 × 38-11) (Hy × L317)	6 to 10, inc.
44	(187-2 × 4-8) (Hy × 540)	6
52	(Hy × 67) (4-8 × 540)	6
65	(51 × 4-8) (Hy × 540)	4, 5, 6, 7
102	(KYS × U. S. 7) (U. S. 5 × U. S. 6) (experimental)	10
239	(Hy × KYS) (P8 × J8-6G) (experimental)	10
264	(Hy × J7-2E) (U. S. 2 × U. S. 3) (experimental)	10
265	(Hy × J8-6G) (U. S. 2 × U. S. 3) (experimental)	10
379	(P8 × J8-6G) (Hy × U. S. 7) (experimental)	10
396	(U. S. 3 × 38-11) (Hy × L317) (experimental)	10
U. S. Hybrids (White)		
168	(Ky. 30A × T10B) (Ky. 39 × JC33) (experimental)	10
189	(Ky. 30A × T10B) (JC33 × T18C) (experimental)	10
199	(Ky. 30A × JC33) (T10B × T18C) (experimental)	10
360	(11b × JC33) (41 × 43) (experimental)	10
DeKalb Agr. Assn., DeKalb, Ill.		
404A		3
604		3
606		3
607		3
639		3
800		9
821B		9
827		9
888		9
922W		9
Eastern Pioneer Hybrid Corn Co., Yellow Springs, Ohio		
300		7, 8, 10
307		9
314		3, 9
317		6, 9
322		3
324		2, 3, 4
330		3

332	9, 10
333	7, 8
334	4, 9
336	7, 8
340	3, 4, 5, 6
353	2
373	2

Pfister Hybrid Corn Co., El Paso, Ill.

160	9
260	3
266	3
280	3, 9
360	9
360A	9
366	3
368	3
380	9

F. D. Richey, Ashville, Ohio

Richbred 442	9

Open-pollinated Varieties

Clarage (Eichelberger)	8, 9
Cook (A. B. Cook)	2
White Dent (Foster)	10
Woodburn (W. N. Scarff's Sons)	3 to 7, inc.

TABLE 2.—Test Division A. Adaptation Area 1. 1942

Experiment No.: 602A Cortland, Trumbull Co.
603A Canfield, Mahoning Co.

Strain	Acre yield: All experiments: Av.	Acre yield: All experiments: Av. minus expected	Acre yield: Exp. No. 602A	Acre yield: Exp. No. 603A	Dry matter in ears at harvest	Planting to silking	Root-lodged plants	Broken plants
	Bushels	*Bushels*	*Bushels*	*Bushels*	*Per cent*	*Days*	*Per cent*	*Per cent*
Ohio 1271	80.8	+ 4.3	68.0*	93.6	66.4	69.3	1.3	19.0
Ohio K24	80.4	+ 4.4	64.4	96.4	65.0	70.1	.2	22.3
Ohio 3096	79.7	+ 4.0	65.6*	93.8	65.6	70.7	1.5	24.0
Pioneer 324	79.5	+ 3.9	62.4	96.6	63.9	70.9	3.5	30.4
Pioneer 373	78.8	+ 2.7	63.8*	93.8	65.1	69.8	10.0	24.9
Ohio M15	78.5	+ 2.6	70.7	86.3	65.9	70.3	2.1	33.2
Indiana 210B	77.6	+ 1.4	63.1†	92.1	64.0	69.7	5.1	25.2
Ohio 1270	76.9	+ 1.1	60.6*	93.1	63.7	70.5	2.3	20.6
Ohio 3097	76.5	+ 1.0	61.0	92.0	64.4	71.0	1.1	25.9
Ohio 4001	76.4	+ .2	58.7	94.0	64.6	69.7	.3	27.9
Pioneer 353	76.3	+ .7	60.5*	92.1	65.6	70.8	3.1	19.7
Ohio 4022	76.2	+ .6	59.7*	92.6	62.3	70.9	.8	22.6
Ohio W36	76.2	+ .8	62.0	90.4	61.6	71.2	1.8	27.2
Ohio M20	76.0	− .7	63.5*	88.5	66.5	69.0	1.8	28.2
Ohio C38	76.0	+ .8	62.7*	89.2	58.9	72.9	2.6	19.0
Ohio K35	75.8	+ .1	61.8*	89.8	64.0	70.6	1.1	22.1
Michigan 24B	75.2	− 1.0	59.3*	91.1	63.2	69.8	3.5	32.5
Ohio K23	74.6	− 1.4	59.1*	90.0	63.2	70.1	1.9	24.4
Ohio W46	74.6	− .8	53.5	95.7	58.8	71.4	.9	24.0
Michigan 36B	73.4	− 5.0	58.8	87.9	65.3	67.3	6.7	36.1
Ohio 1208	73.4	− 2.7	61.1*	85.6	64.4	69.9	.8	23.7
Ohio 4018	73.3	− 1.9	58.3*	88.3	62.9	72.2	.0	27.4
Michigan 215	73.1	− 2.3	61.4	84.8	62.4	71.4	9.7	37.0
Ohio 3013	72.5	− 3.2	55.7	89.3	62.8	70.7	1.6	23.9
Ohio W54	72.5	− 2.9	56.6	88.4	59.8	71.6	.6	15.6
Ohio W26	71.6	− 3.8	52.4	90.7	61.2	71.6	3.0	19.5
Cook	70.8	− 4.6	58.4	83.2	62.4	71.3	12.4	41.6
Ohio M34	70.6	− 5.4	57.8*	83.4	64.9	70.1	2.0	37.0
Michigan 237	70.1	− 5.2	55.0	85.2	60.8	73.8	3.8	28.4
Ohio W17	63.1	−12.2	52.3*	73.8	59.4	73.7	9.6	29.7

*Four replications only. †Three replications only.

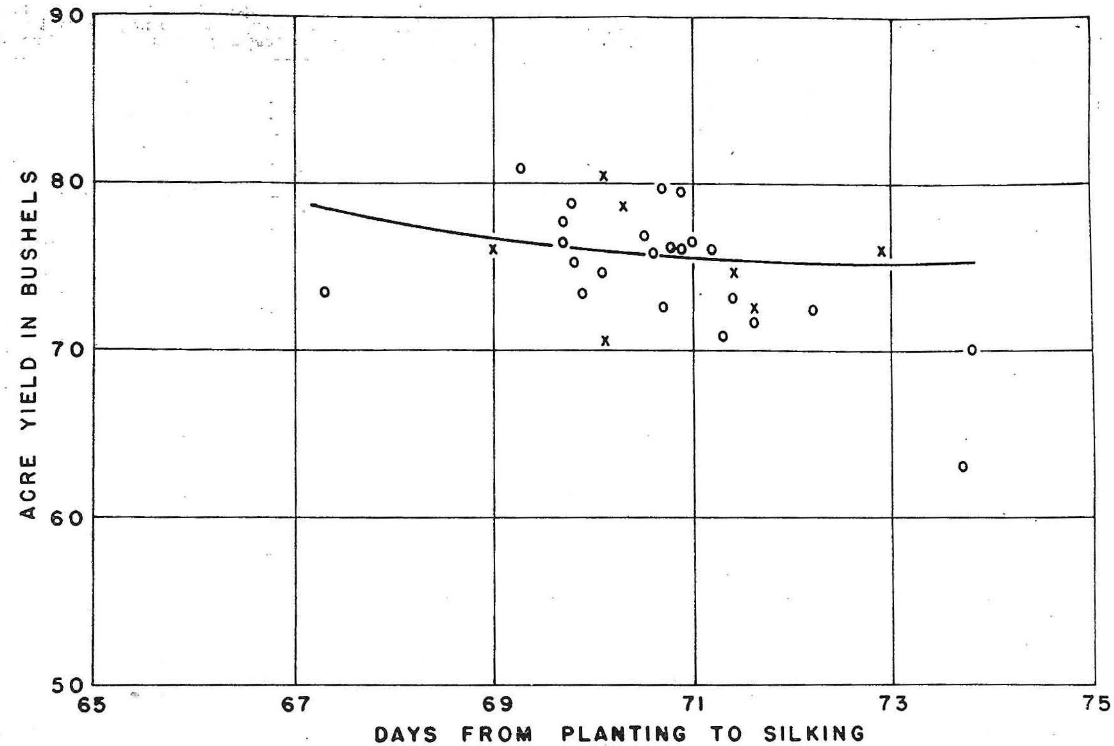

Fig. 1.—A graphic representation showing the relation of grain yield to the period from planting to silking, Test Division A. (x) indicates a control strain. Other strains are indicated by (o). The trend of expected grain yields is shown by a segment of the parabola computed from the control strains. $Y = 5.67 - 0.85\ (X) + 0.118\ (X^2)$.

TABLE 3.—Test Division B. Adaptation Areas 2, 4, 5, and 6. 1942

Experiment No.: 604B Wooster, Wayne Co.
605B St. Clairsville, Belmont Co.
606B Holgate, Henry Co.
607B Paulding, Paulding Co.
633B Columbus, Franklin Co.

Strain	Acre yield: All experiments, Average	Acre yield: All experiments, Av. minus expected	Acre yield: Exp. No. 604B	Acre yield: Exp. No. 605B	Acre yield: Exp. No. 606B	Acre yield: Exp. No. 607B	Acre yield: Exp. No. 633B	Dry matter in ears at harvest	Planting to silking	Root-lodged plants	Broken plants
	Bushels	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Per cent*	*Days*	*Per cent*	*Per cent*
Ohio C12	98.4	+ 1.8	95.8	103.4	112.8	71.4	108.8	67.5	73.1	1.7	7.6
Indiana 610	98.2	+ 3.8	99.9	102.6*	114.4	69.5	104.4*	67.8	71.7	1.1	12.4
Ohio C88	97.7	+ 2.9	100.4	101.7	114.2	76.3	96.1*	66.3	72.0	1.0	5.8
Ohio 4020	97.6	+ 5.3	101.4	103.2	108.0	76.1	99.4	68.4	70.4	.5	8.7
Ohio 4019	96.9	+ 2.2	105.5	95.7	104.2	78.1	101.2*	67.2	71.9	.9	7.8
Ohio W10	95.4	— .2	95.1*	95.2	111.2	72.1	103.2	67.9	72.5	2.4	9.3
Pioneer 314	95.2	— .1	91.0	107.4	110.1	71.8	95.8	69.3	72.3	3.1	12.2
Iowa 4059	95.1	+ 2.8	100.2	102.5	104.9	66.2	101.5	68.8	70.4	1.3	12.8
Ohio C92	95.1	— 2.0	96.4	98.2	107.4	66.9	106.7†	67.0	73.4	.4	5.6
DeKalb 639	94.1	+ .5	97.7	102.6	115.3	66.9	88.1*	68.1	71.2	2.2	17.0
Ohio W46	92.9	+ 1.5	88.4†	97.3	107.8	76.6	94.5*	68.7	69.9	.8	7.1
Pfister 280	92.7	— 2.9	88.6*	101.8	106.7	65.4	100.9†	68.2	72.5	1.6	11.3
Ohio W54	92.3	— .8	98.7	94.7	108.1	65.8	94.2	67.9	70.9	.4	6.3
Pioneer 322	92.1	— .7	87.5	101.9	111.8	66.5	92.8	71.5	70.7	2.0	21.8
Pfister 260	92.0	— 3.3	91.3	97.0	111.1	63.0	97.8*	68.4	72.3	2.1	7.7
Pioneer 330	91.9	+ .8	89.8	105.8	103.8	60.0	99.9	69.7	69.7	.5	10.2
Indiana 210B	91.1	+ .3	81.2	95.9	116.8	66.5	94.9†	71.3	69.5	3.6	9.3
Ohio C38	91.1	— 2.5	99.2	95.4	102.8	62.9	95.4*	67.5	71.2	3.3	10.5
Pioneer 324	90.8	+ .2	94.1	100.4	105.5	63.4	90.8	70.3	69.4	2.1	12.6
Ohio K24	90.5	.0	91.9	96.7	98.7	74.2	91.1	70.3	69.3	.4	6.6
Pioneer 340	90.3	— 3.1	90.8	96.2	104.4	60.5	99.4	69.8	71.1	4.2	7.2
DeKalb 404A	88.9	— 1.7	89.3*	91.6	103.0	72.4	88.0†	70.3	69.4	.4	8.2
Pfister 368	88.4	— 3.5	91.1*	92.7	103.3	62.7	92.3‡	69.5	70.2	.7§	15.0§
DeKalb 607	88.1	— 7.1	92.3	90.2	103.0	59.8	95.2	68.1	72.2	2.8	15.3
DeKalb 606	87.8	— 8.0	93.2	93.2	98.7	65.2	88.7†	67.8	72.6	1.7	16.0
Pfister 366	87.7	— 6.7	86.8*	93.3	103.2	67.1	88.2†	68.3	71.7	2.9	16.1
DeKalb 604	87.7	— 7.0	88.6	97.3	101.9	59.1	91.7*	67.9	71.9	1.4	20.7
Pfister 266	85.5	— 9.5	79.7*	89.6	102.9	67.5	87.6†	69.1	72.1	4.2	11.3
Ohio W17	83.5	— 8.8	80.0	80.3	103.7	66.3	87.1‡	70.1	70.4	1.7§	17.6§
Woodburn	72.5	—18.3	73.9‡	80.8	85.4	55.5	66.8†	71.0	69.5	10.3‖	17.0‖

*Four replications only. †Three replications only. ‡Computed values. See text.
§Lodged and broken plants taken on Experiments 604B, 605B, 606B, and 607B only.
‖Lodged and broken plants taken on Experiments 605B, 606B, 607B, and 633B only.

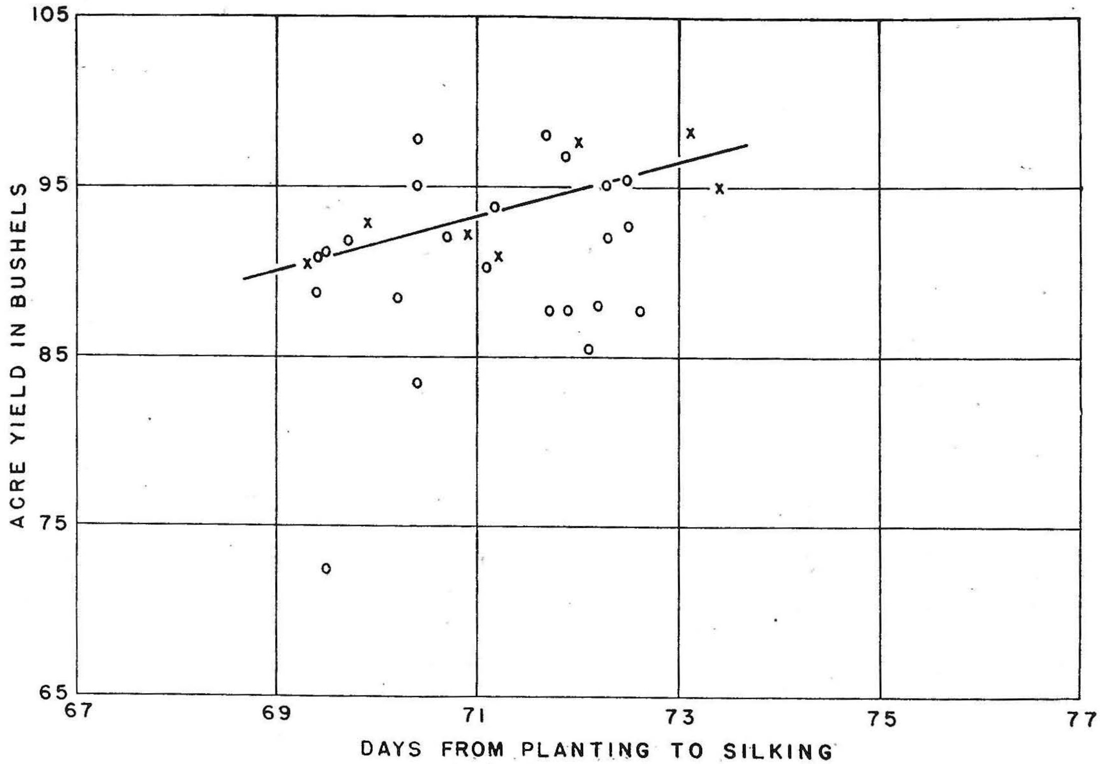

Fig. 2.—A graphic representation showing the relation of grain yield to the period from planting to silking, Test Division B. (x) indicates a control strain. Other strains are indicated by (o). The trend of expected grain yields is shown by a segment of the parabola computed from the control strains. $Y = 0.48 + 1.63\ (X) - 0.007\ (X^2)$.

TABLE 4.—Test Division C. Adaptation Area 4. 1942

Experiment No.: 610C Sidney, Shelby Co.
611C Lakeview, Auglaize Co.

Strain	Acre yield				Dry matter in ears at harvest	Planting to silking	Root-lodged plants	Broken plants
	All experiments		Exp. No. 610C	Exp. No. 611C				
	Av.	Av. minus expected						
	Bushels	*Bushels*	*Bushels*	*Bushels*	*Per cent*	*Days*	*Per cent*	*Per cent*
Ohio C12	115.2	+ 4.5	115.5	114.8	66.4	66.1	0.2	5.6
Ohio W10	115.1	+ 6.8	113.7	116.4	66.1	64.6	.2	5.0
Ohio 3074	111.5	+ 3.8	109.9	113.0	64.5	64.4	.7	3.9
Ohio C38	111.0	+ 2.7	107.0	114.9	66.5	64.6	.6	3.2
Ohio W36	109.2	+12.0	106.3	112.0	69.4	62.5	.4	4.7
Ohio 3076	109.0	+ 1.0	99.6	118.3	66.4	64.5	.4	4.0
Ohio C48	109.0	+ 1.3	105.9	112.1	66.0	64.4	.3	3.0
Ohio C88	108.5	− 2.2	105.0	112.0	64.1	66.1	.0	2.3
Ohio W30	107.6	+ .3	104.0	111.2	67.8	64.3	.0	4.0
Ohio C92	107.5	− 2.3	104.0	110.9	65.2	66.8	.0	5.9
Ohio W58	107.2	− 2.0	105.4	108.9	70.0	64.9	.2	5.3
Ohio C28	106.7	− 1.9	106.4	107.0	67.7	64.7	.3	3.2
U. S. 65	106.1	− 1.6	104.2	107.9*	69.5	64.4	.3	11.8
Ohio 3085	105.9	− 2.7	100.5	111.3	61.8	64.7	.0	4.8
Pioneer 340	105.4	− 5.1	98.8	112.0	64.6	65.6	.3	6.2
Ohio W54	104.5	− 4.4	101.9	107.1	65.8	64.8	.0	4.7
Ohio W46	104.4	− .4	102.9	105.8*	66.7	63.7	.4	4.3
Ohio 3082	103.2	− 1.6	92.4	114.0	67.3	63.7	.6	7.4
Ohio C76	103.2	− 6.3	97.5	108.9	64.2	65.0	.0	2.9
Iowa 939	102.6	.0	100.0	105.1	69.7	63.3	.5	20.2
Pioneer 334	102.3	− 8.3	101.5	103.0	68.1	66.2	.0	10.8
Ohio W17	102.3	− 7.2	94.2	110.4	66.8	65.0	.0	9.8
Ohio K24	101.6	+ .3	99.6	103.6	70.2	63.1	.0	3.9
Pioneer 324	100.6	− 4.7	97.4	103.8	72.3	63.8	.4	7.3
Ohio M34	99.6	+10.0	92.9	106.2	72.1	61.7	.2	6.3
Ohio K35	98.6	− 2.7	96.6	100.5	71.2	63.1	.2	4.9
Ohio M15	94.9	+ 1.2	90.5	99.2	72.2	62.1	.2	9.8
Ohio M20	92.4	+ 5.0	87.4	97.4	71.0	61.5	.2	6.2
Woodburn	88.9	− 8.3	86.5	91.3*	69.7	62.5	2.0	11.6
Ohio K23	88.3	− 8.0	82.5	94.0	70.5	62.4	.0	3.2

*Four replications only.

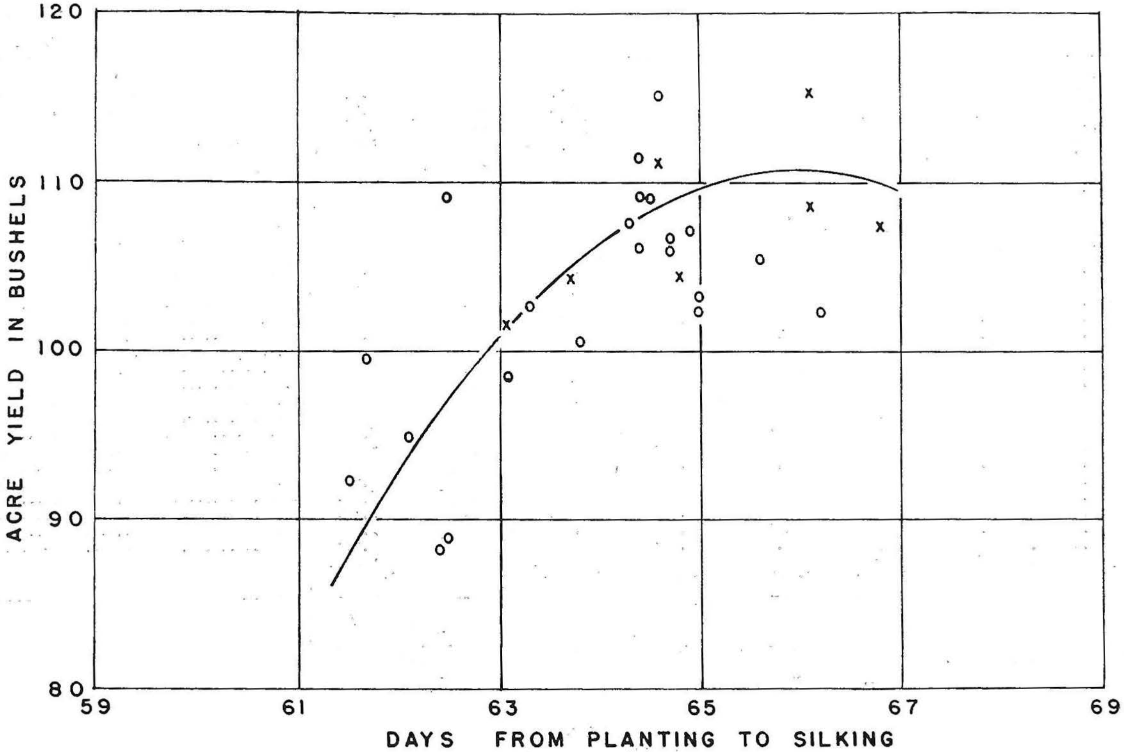

Fig. 3.—A graphic representation showing the relation of grain yield to the period from planting to silking, Test Division C. (x) indicates a control strain. Other strains are indicated by (o). The trend of expected grain yields is shown by a segment of the parabola computed from the control strains. $Y = -0.72 + 6.49\,(X) - 1.146\,(X^2)$.

TABLE 5.—Test Division D. Adaptation Area 4. 1942

Experiment No.: 612D Croton, Licking Co.
613D Rockford, Mercer Co.
614D Dover, Tuscarawas Co.

Strain	Acre yield: All experiments: Av.	Acre yield: All experiments: Av. minus expected	Acre yield: Exp. No. 612D	Acre yield: Exp. No. 613D	Acre yield: Exp. No. 614D	Dry matter in ears at harvest	Planting to silking	Root-lodged plants	Proken plants
	Bushels	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Per cent*	*Days*	*Per cent*	*Per cent*
Ohio C12	102.6	+ 0.8	126.2	111.6	70.0	67.1	70.5	1.0	5.9
Ohio W58	101.6	+ 7.0	124.0	111.7	69.0	70.6	67.9	.9	3.9
Ohio C38	100.1	+ 5.3	132.9	103.4	64.1	68.3	68.0	2.0	3.9
Ohio C92	100.0	+ .2	126.1	111.6	62.4	67.4	69.9	.3	3.8
Ohio 3084	99.6	— 1.8	124.2	117.1	57.6	66.8	70.4	.2	4.5
Ohio W30	99.3	+ 5.1	122.6	109.6	65.7	69.6	67.7	.4	3.3
Ohio 3060	98.7	+ 3.7	124.1	104.8	67.3	68.1	68.1	.1	2.0
Indiana 610	98.6	+ 2.4	126.9	105.0	63.9	67.7	68.6	.5	7.8
Ohio W10	97.8	+ 1.8	123.3	103.4	66.8	68.2	68.5	.8	4.8
Iowa 4059	97.3	+ 2.5	124.1	102.9	64.8	68.9	68.0	.5	6.1
Ohio 3074	96.7	+ .2	129.4	107.4	53.2	67.2	68.7	.6	3.9
Ohio 3081	96.1	— 1.1	116.2	102.7	69.5	69.4	69.0	.7	2.7
Ohio W46	94.7	+ 2.9	118.2	94.6	71.2	68.7	66.1	.1	5.4
Indiana 608C	94.6	+ .9	119.1	101.4	63.2	68.3	67.4	.6	12.3
Ohio C88	94.4	— 3.6	120.8	103.1	59.3	65.8	69.3	.5	3.3
Ohio C48	94.3	— 1.7	117.4	102.2	63.2	66.1	68.5	.4	5.7
Ohio L86	94.3	— 8.2	116.4	111.5	55.0	65.8	70.7	.9	8.2
Ohio C76	93.6	— 1.4	112.9	101.5	66.3	66.0	68.1	.9	3.6
Ohio 3082	92.6	— .9	118.4	101.0	58.4	69.4	67.3	.2	5.8
Ohio 3076	92.5	— 3.2	117.9	91.3	68.3	68.2	68.4	.2	4.7
Ohio W54	92.4	— 1.8	118.8	102.7	55.6	67.5	67.7	.4	3.9
Iowa 939	91.8	— .9	119.3	90.4	65.8	69.9	66.8	1.4	12.2
Ohio 3085	91.4	— 5.6	117.9	100.7	55.5	68.7	68.9	.2	5.2
U. S. 65	90.6	— 5.9	114.9*	100.2	56.6	69.7	68.7	.8	18.0
Pioneer 340	90.2	— 5.3	123.6	99.2	47.8	69.5	68.3	.2	6.4
Ohio C14	89.6	—11.8	111.6	101.0	56.3	69.4	70.4	1.8	11.3
Ohio K24	87.8	— 4.0	107.7	94.9	60.9	70.3	66.1	.3	6.5
Ohio W17	87.6	— 7.9	114.4	96.6	51.7	68.9	68.3	.8	14.6
Ohio K35	84.5	— 7.6	100.8	89.5	63.3	70.7	66.4	.6	6.4
Woodburn	74.4	—17.0	97.0	78.1	48.1	70.6	65.7	5.2	13.8

*Four replications only.

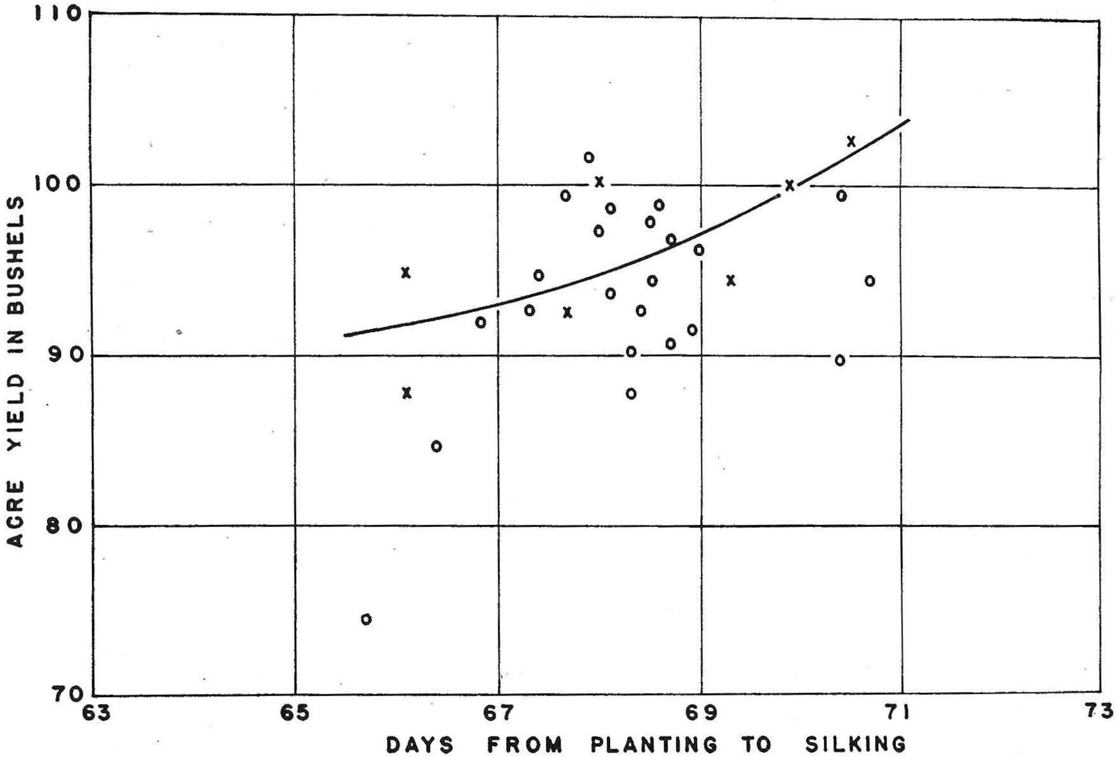

Fig. 4.—A graphic representation showing the relation of grain yield to the period from planting to silking, Test Division D. (x) indicates a control strain. Other strains are indicated by (o). The trend of expected grain yields is shown by a segment of the parabola computed from the control strains. $Y = 3.76 + 1.09\ (X) + 0.269\ (X^2)$.

TABLE 6.—Test Division E. Adaptation Areas 4 and 5. 1942

Experiment No.: 615E Hicksville, Defiance Co.
616E Huron, Erie Co.

Strain	Acre yield				Dry matter in ears at harvest	Planting to silking	Root-lodged plants	Broken plants
	All experiments		Exp. No. 615E	Exp. No. 616E				
	Av.	Av. minus expected						
	Bushels	*Bushels*	*Bushels*	*Bushels*	*Per cent*	*Days*	*Per cent*	*Per cent*
U. S. 13	125.7	+ 7.2	138.7	112.7	68.3	67.0	0.0	6.5
Ohio C12	122.4	+ 3.4	129.6*	115.2	69.4	66.0	1.3	5.1
Ohio 3061	121.7	+ 3.5	131.3	112.1	68.3	67.3	5.4	6.0
Ohio 4020	121.5	+ 4.3	135.8	107.2	70.1	63.5	.0	5.2
Ohio C38	121.0	+ 3.7	134.5	107.4	70.6	63.6	.9	4.0
Ohio 3049	120.5	+ 1.7	132.1	108.8	68.6	65.2	.5	5.5
Ohio W10	120.4	+ 2.0	135.6	105.2	69.9	64.6	1.0	6.8
Ohio L86	120.3	+ 2.7	130.6	110.0	68.2	67.9	1.0	8.6
Ohio 3083	119.9	+ 1.0	128.6*	111.1	68.3	65.5	.0	3.0
Ohio 4019	118.5	− .1	126.6	110.4	69.1	64.9	1.7	5.9
Ohio C88	118.4	− .6	126.1	110.6	68.3	65.7	.9	3.0
Pioneer 317	118.1	− .8	128.9	107.3	71.8	66.2	1.4	7.2
U. S. 44	117.1	− .3	129.8	104.4	71.3	68.0	.2	6.1
Ohio C50	117.0	− 1.9	126.1	107.9	68.6	65.5	2.4	2.7
Ohio C92	116.8	− 1.2	125.7	107.8	67.9	67.5	.0	3.3
Ohio C28	116.1	− 1.6	126.0	106.2	69.0	63.9	.0	5.0
Iowa 939	116.0	+ .9	124.0	108.0	70.6	62.3	2.0	16.2
Ohio K24	115.8	+ 1.0	128.1*	103.5	72.3	62.2	.0	5.8
Ohio W46	115.8	+ .1	124.3	107.2	68.7	62.6	.0	4.6
Pioneer 340	115.7	− 3.2	128.0	103.4	70.7	65.4	.6	6.2
Ohio C48	113.6	− 4.6	122.2	105.0	67.3	64.4	.6	4.0
Illinois 384	113.2	− 5.3	120.2	106.2	70.5	64.7	.0	5.2
Ohio C14	112.9	− 5.9	123.5	102.3	68.3	66.5	1.0	5.7
U. S. 65	111.8	− 7.2	119.3	104.3	70.9	65.7	1.5	9.4
Ohio 3081	111.4	− 7.6	118.9	103.9	70.9	66.0	.2	3.0
Ohio W54	110.7	− 6.5	119.3*	102.0	68.3	63.5	1.1	4.0
Ohio W17	110.4	− 7.8	116.2*	104.5	69.2	64.4	3.6	9.6
Ohio C44-2	109.3	− 9.7	119.5	99.0	67.2	66.0	1.9	3.5
U. S. 52	104.1	−13.7	115.2	93.0	69.8	67.7	1.7	5.2
Woodburn	93.8	−21.3	98.6	88.9	73.3	62.3	13.6	21.9

*Four replications only.

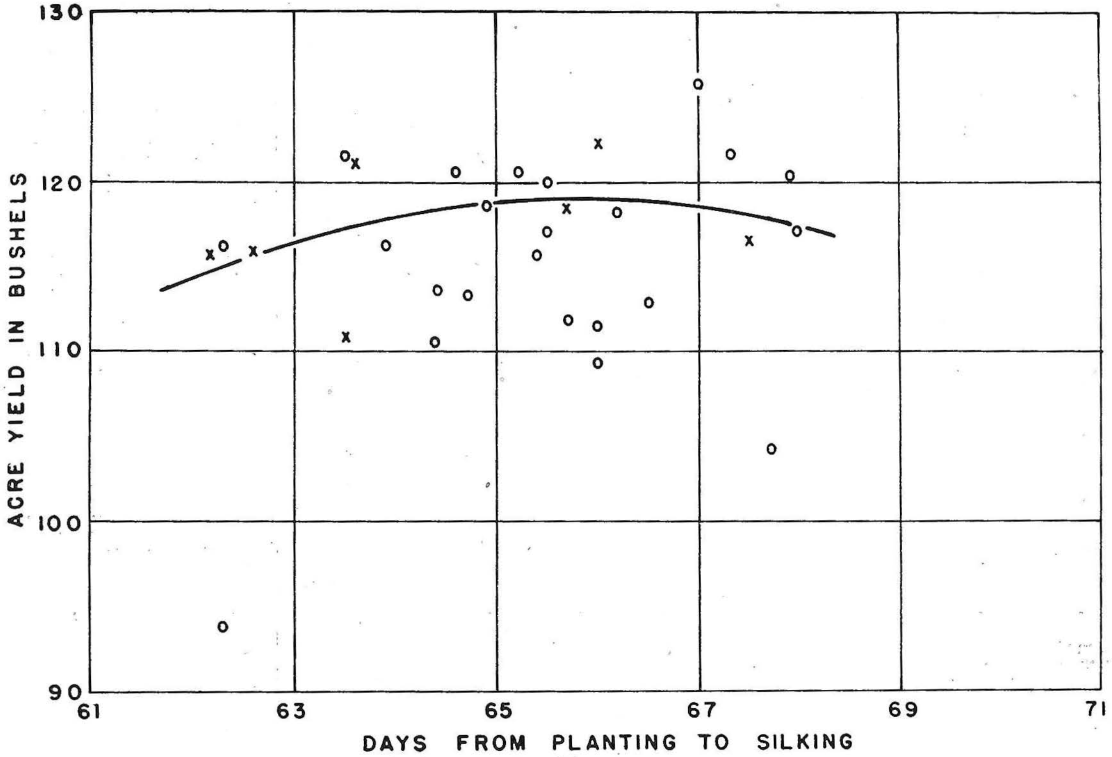

Fig. 5.—A graphic representation showing the relation of grain yield to the period from planting to silking, Test Division E. (x) indicates a control strain. Other strains are indicated by (o). The trend of expected grain yields is shown by a segment of the parabola computed from the control strains. $Y = 3.85 + 2.24 (X) - 0.309 (X^2)$.

TABLE 7.—Test Division F. Adaptation Areas 4 and 5. 1942

Experiment No.: 618F Findlay, Hancock Co.
620F Van Wert, Van Wert Co.

Strain	Acre yield				Dry matter in ears at harvest	Planting to silking	Root-lodged plants	Broken plants
	All experiments		Exp. No. 618F	Exp. No. 620F				
	Av.	Av. minus expected						
	Bushels	*Bushels*	*Bushels*	*Bushels*	*Per cent*	*Days*	*Per cent*	*Per cent*
Ohio C12	104.0	+ 2.8	92.9	115.0	70.2	73.2	0.0	7.4
Ohio C88	100.9	+ 6.7	88.2	113.5	68.8	70.0	.3	4.9
U. S. 13	100.6	+ 1.8	89.6	111.6	69.4	72.0	.0	13.6
Ohio C92	99.8	— 1.6	86.3	113.2	70.0	73.3	.0	7.7
Ohio C50	98.7	+ 6.4	90.8	106.5	69.2	69.2	.0	6.1
Ohio W30	98.0	+ 4.5	90.0	106.0*	71.8	69.7	.0	5.8
Indiana 610	96.3	+ 1.1	87.0	105.5	70.7	70.4	.0	10.1
Ohio L86	95.7	— 8.0	85.4	106.0	68.1	74.6	.0	13.0
Ohio W10	94.8	— 1.0	85.7	103.8	71.7	70.7	.0	11.0
Ohio C38	93.8	— 2.1	87.3	100.2	70.6	70.7	.3	6.0
Ohio 3063	93.5	+ 2.8	88.9	98.1	70.2	68.6	.0	12.5
Ohio W54	93.3	— .5	85.1	101.4	70.9	69.8	.0	6.2
Ohio W58	92.3	— 3.1	87.2	97.4	73.7	70.5	.0	9.9
Pioneer 300	91.8	—10.1	81.4	102.2	67.7	73.6	.0	13.3
U. S. 65	91.0	— 3.7	84.3	97.7	72.6	70.2	.3	15.8
Ohio C76	90.5	— 5.4	82.9	98.1	67.4	70.7	.0	4.2
Ohio K24	90.4	+ .8	88.7	92.1	74.8	68.2	.0	14.9
Ohio C48	90.3	— 4.4	85.9	94.6	69.2	70.2	.0	8.0
Pioneer 336	88.9	—14.3	79.1	98.6	69.0	74.3	.0	12.3
Indiana 608C	88.5	— 6.9	77.1	99.8	70.5	70.5	.0	8.4
Ohio C28	86.9	— 7.6	84.5	89.2	70.6	70.1	.0	9.4
Ohio W66	85.7	— 6.3	91.3	80.0	71.8	69.1	.0	12.7
Ohio W46	84.0	— 7.2	81.6	86.3	73.1	68.8	.0	7.7
Ohio W17	82.5	—12.2	72.4	92.6	72.1	70.2	.0	15.2
Iowa 939	80.3	—10.1	77.1	83.4	73.4	68.5	.0	22.1
Pioneer 333	79.3	—20.3	71.1	87.5	72.5	72.4	.0	14.5
Ohio C68	76.2	—18.0	80.4	71.9	70.7	70.0	.0	10.2
Ohio K64	76.1	—15.4	81.3	70.9	73.6	68.9	.0	11.7
Ohio K35	74.7	—14.7	72.2	77.2	75.1	68.1	.0	6.6
Woodburn	67.5	—22.7	68.9	66.0	74.3	68.4	2.1	21.1

*Four replications only.

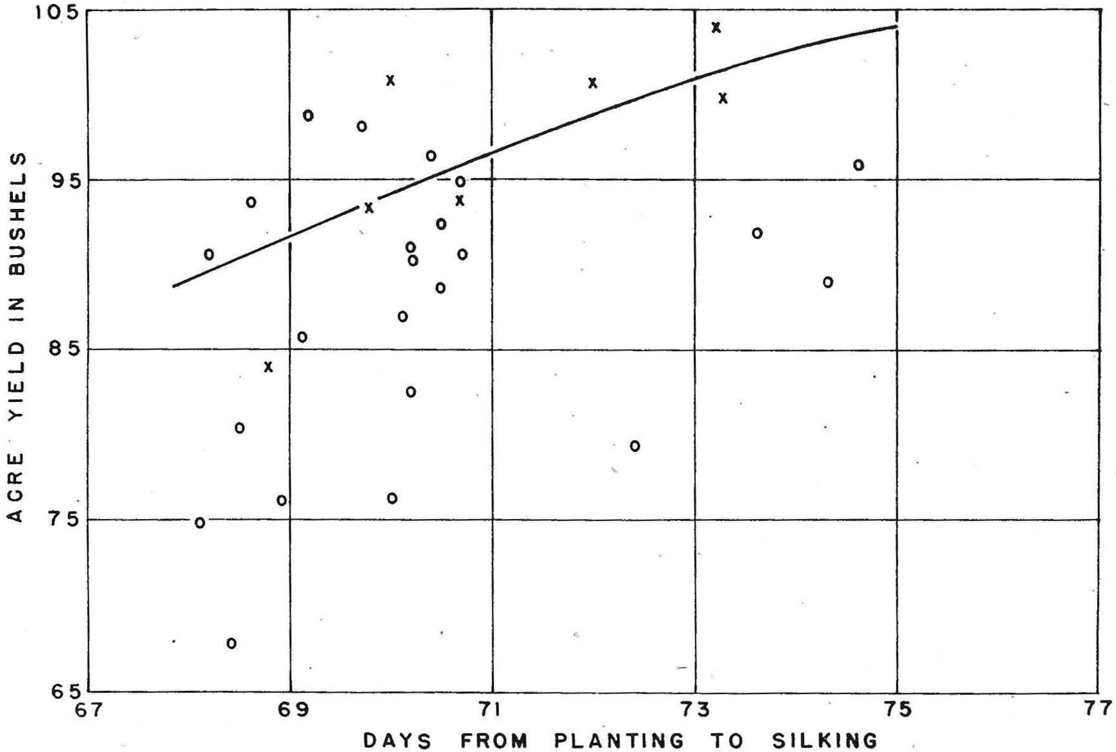

Fig. 6.—A graphic representation showing the relation of grain yield to the period from planting to silking, Test Division F. (x) indicates a control strain. Other strains are indicated by (o). The trend of expected grain yields is shown by a segment of the parabola computed from the control strains. $Y = 7.23 + 2.61 (X) - 0.078 (X^2)$.

TABLE 8.—Test Division G. Adaptation Area 6. 1942

Experiment No.: 621G New Weston, Darke Co.
622G London, Madison Co.
623G Eaton, Preble Co.
624G Washington C. H., Fayette Co.

Strain	Acre yield						Dry matter in ears at harvest	Planting to silking	Root-lodged plants	Broken plants
	All experiments		Exp. No. 621G	Exp. No. 622G	Exp. No. 623G	Exp. No. 624G				
	Av.	Av. minus expected								
	Bushels	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Per cent*	*Days*	*Per cent*	*Per cent*
Ohio 3049	110.8	+13.4	104.8*	114.1	114.9	109.3	76.7	70.8	0.4	5.6
Ohio L86	110.0	+10.4	98.9†	116.4	111.9	112.8	74.8	72.8	2.9	7.1
U. S. 13	104.1	+ 4.5	85.4*	107.9	115.7	107.3	73.8	72.8	.1	7.1
Ohio C38	103.7	+ 6.7	93.1*	100.2	113.0	108.6	75.5	70.4	1.4	5.2
Ohio 3087	103.5	+ 1.7	86.4†	105.5	117.1	105.1	75.4	74.8	.1	9.1
Indiana 813C	102.9	+ 2.5	88.4†	100.5	115.7	107.0	73.3	73.5	.4	7.0
Ohio C12	101.6	+ 2.1	89.4†	102.4	107.8	106.6	75.9	72.7	2.1	7.2
Ohio C82	100.7	+ 1.9	88.2†	100.0	114.1	100.4†	75.3	72.1	.5	9.0
Ohio W10	100.2	+ 2.3	90.9*	99.9	110.9	99.0	75.8	71.2	.5	6.4
Ohio 3083	99.6	+ 1.5	94.1†	94.8	109.6	99.7	74.7	71.4	.4	6.9
Iowa 939	99.0	+ 3.9	92.2†	89.0	114.7	100.0	76.3	68.8	.9	17.3
Indiana 610	98.0	— .2	73.4†	103.1	113.8	101.5	75.2	71.5	1.0	15.3
Ohio C92	97.1	— 2.3	88.2†	96.7	106.9	96.4	76.5	72.6	.2	7.9
Ohio W17	97.1	+ .5	98.0*	92.0	106.6	91.6	76.3	70.1	1.0	24.4
Ohio W46	96.5	+ .2	100.8*	82.5	105.0	97.6	75.7	69.8	.9	6.1
Pioneer 300	95.7	— 4.5	87.2*	93.2	108.2	94.1	74.1	73.3	.8	8.2
Ohio K35	95.6	+ .6	85.7†	100.6	104.1	92.1	78.7	68.7	.9	5.1
Ohio C48	94.8	— 2.6	93.6*	88.0	104.2	93.5	74.3	70.8	.6	8.4
Ohio W30	93.9	— 3.4	81.3*	87.0	111.5	95.7†	78.4	70.7	1.7	6.2
Ohio C88	93.0	— 6.3	79.8†	88.6	104.5	99.0	75.0	72.5	3.6	4.9
Ohio C80	92.3	— 6.3	90.7*	85.0	101.1	92.3	77.0	71.9	.6	5.0
Ohio C68	92.0	— 5.2	94.7†	79.8	102.4	90.9	74.2	70.6	.0	12.1
Ohio W58	91.7	— 6.4	78.5†	87.4	105.1	95.9	77.6	71.4	1.1	6.3
Ohio C50	91.5	— 6.3	87.7*	90.8	95.5	91.9	75.8	71.1	1.4	6.2
Ohio W54	91.4	— 5.0	80.1†	90.1	99.9	95.6	76.1	69.9	.6	5.0
Pioneer 336	90.4	— 6.7	74.9†	91.2	99.2	96.4	74.1	70.5	.7	10.4
Ohio C76	87.1	—11.2	79.6*	82.0	98.1	88.7†	73.8	71.6	4.3	5.3
Clarage	86.6	—13.6	70.4*	90.3	94.3	91.3	74.7	73.3	9.7	19.6
Pioneer 333	86.5	—12.5	80.5*	79.0	96.9	89.6	76.8	72.2	1.3	7.8
Indiana 608C	86.4	—10.9	88.0†	84.8	88.1†	84.5†	75.0	70.7	.5	22.4

Days from planting to silking taken on Experiments 621G, 622G, and 624G only.
*Three replications only. †Four replications only.

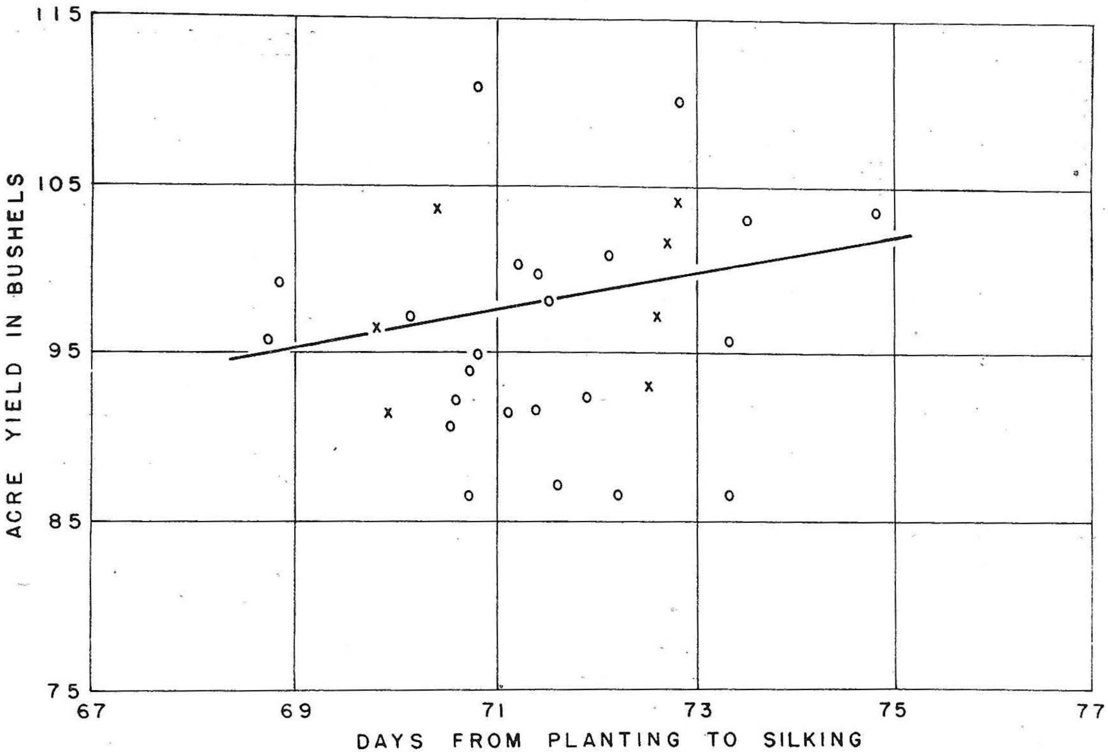

Fig. 7.—A graphic representation showing the relation of grain yield to the period from planting to silking, Test Division G. (x) indicates a control strain. Other strains are indicated by (o). The trend of expected grain yields is shown by a rectilinear regression line. Y = 4.92 + 1.09 (X).

TABLE 9.—Test Division K. Adaptation Area 6. 1942

Experiment No.: 625K Troy, Miami Co.
626K Carpenter, Meigs Co.
627K Batavia, Clermont Co.
628K Mt. Healthy, Hamilton Co.
632K Germantown, Montgomery Co.

Strain	Acre yield							Dry matter in ears at harvest	Planting to silking	Root-lodged plants	Broken plants
	All experiments		Exp. No. 625K	Exp. No. 626K	Exp. No. 627K	Exp. No. 628K	Exp. No. 632K				
	Av.	Av. minus expected									
	Bushels	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Per cent*	*Days*	*Per cent*	*Per cent*
Ohio 3089	123.2	+ 5.2	122.7	110.5	127.9	124.1	130.8	73.8	72.8	0.3	5.1
Ohio 3091	119.5	− 1.3	115.1	106.2	125.7	129.0	121.5	73.1	73.7	.3	3.5
Ohio 3084	118.7	+ 4.7	118.5	99.7	122.0	120.7	132.7*	73.7	71.5	.0	3.7
DeKalb 888	118.5	− 1.7	114.3	105.7	123.7	121.5	127.5	72.1	73.5	.4	8.1
Ohio 3088	117.0	− .4	123.1*	99.9†	114.6	116.9*	130.4	73.2	72.6	.7	6.3
Ohio 3087	116.8	− 1.6	125.2	103.6	110.3	113.4	131.3	74.1	72.9	.0	6.3
U. S. 13	115.3	+ 2.0	117.3	92.1*	122.0	117.5	127.7	73.2	71.3	.1	5.3
Pioneer 332	114.2	+ .6	110.4	104.3*	114.2	117.9	124.2	72.0	71.4	.0	5.7
Ohio C12	112.7	− .3	110.8	93.7†	122.8	117.8	118.6	74.8	71.2	.3	6.0
Ohio C38	110.5	+ 5.1	108.2	99.9	114.3	110.7	119.6*	74.2	68.8	1.5	4.2
Ohio C88	109.9	− 1.5	107.2	97.6*	115.7	114.5*	114.6	73.8	70.7	.0	3.9
Ohio C92	108.8	− 3.0	111.4	95.9*	110.0	110.0†	116.5	74.9	70.8	.0	3.1
DeKalb 827	108.7	− 3.4	106.0	95.0	111.0	113.8	117.6	75.5	70.9	.3	4.7
Pioneer 314	108.3	− .6	107.3	94.3	118.6	114.5	106.8	76.0	69.9	.4	3.6
Pfister 360A	107.6	− 4.2	105.9	99.7†	110.4	109.6	112.2	74.7	70.8	1.0	9.8
Pfister 160	107.0	− 6.3	106.9*	92.6	107.7	112.0*	116.0	73.4	71.3	2.6	10.5
DeKalb 922W	105.8	−17.5	109.6	87.0*	113.9	100.5	118.2	70.3	74.5	.2	6.1
Pfister 380	103.5	− 6.1	103.3	89.9*	112.8	103.1	108.2*	74.3	70.1	1.4	7.2
Pfister 280	103.2	− 6.0	105.9	82.0	107.0	105.4†	115.6	74.4	70.0	1.0	3.9
DeKalb 821B	103.1	−12.1	109.6	85.6*	104.6	104.6	110.9	73.7	71.9	.0	7.2
Pioneer 334	102.5	− 8.9	102.3	81.2	109.8	108.7	110.4	74.5	70.7	.6	4.8
Richbred 442	102.4	− 9.4	104.2	76.1*	113.2	114.2	104.2	71.1	70.8	.1	3.1
Pfister 360	102.3	− 3.8	102.7*	91.0*	103.1	104.1	110.6	73.7	69.0	.7	10.7
Pioneer 307	101.6	− 8.6	103.5*	85.2*	108.6	106.8	103.8	75.8	70.3	.2	6.3
DeKalb 800	101.2	−14.3	109.5	82.2	105.4	103.9	104.8	73.5	72.0	.6	2.8
Ohio W54	101.1	− 1.4	103.9	88.4†	105.0	101.6*	106.6*	74.1	67.9	.0	2.3
Pioneer 317	100.5	− 7.5	103.9	88.0	107.0	102.5	101.1	75.6	69.6	3.0	7.1
Ohio W46	100.2	− 1.7	102.3*	90.8*	106.4	98.3	103.1	75.1	67.7	.0	2.4
Iowa 939	98.8	− .9	98.9	88.6	104.3	99.4	102.9	74.1	67.0	.2	9.8
Clarage	90.8	−24.1	99.2	74.9	88.2	88.1†	103.6	73.8	71.8	6.0	11.7

*Four replications only. †Three replications only.

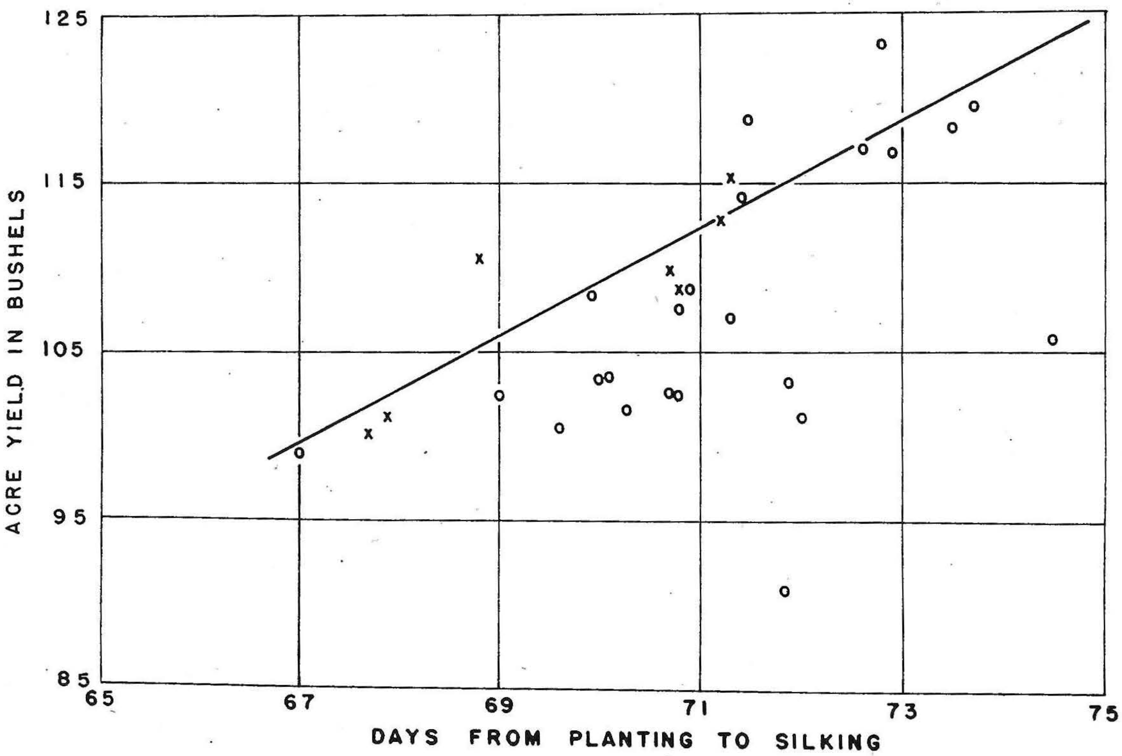

Fig. 8.—A graphic representation showing the relation of grain yield to the period from planting to silking, Test Division K. (x) indicates a control strain. Other strains are indicated by (o). The trend of expected grain yields is shown by a rectilinear regression line. Y=1.90 + 3.15 (X).

TABLE 10.—Test Division L. Adaptation Area 7. 1942

Experiment No.: 629L Harrison, Hamilton Co.
630L Hillsboro, Highland Co.
631L Chillicothe, Ross Co.

Strain	Acre yield					Dry matter in ears at harvest	Planting to silking	Root-lodged plants	Broken plants
	All experiments		Exp. No. 629L	Exp. No. 630L	Exp. No. 631L				
	Av.	Av. minus expected							
	Bushels	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Per cent*	*Days*	*Per cent*	*Per cent*
Kentucky 203 W*	122.3	+ 8.9	124.1	108.1	134.8	73.3	71.4	5.2	21.1
Ohio 3089	120.4	+11.0	120.6	117.6	123.1	76.5	69.3	4.7	17.2
Ky. (122 × 58) (33-16 × 49) W	118.6	+ 5.4	108.3†	118.0	129.6	71.9	71.8	5.6	26.3
U. S. 168 W	116.1	+ 6.0	116.4	116.2	115.7†	73.7	69.5	11.0	18.7
U. S. 199 W	114.8	+ 2.9	110.5	115.5	118.5	72.9	70.1	9.0	23.3
Ind. (H21 × 33-16) (K44 × K41) W	114.7	+ 7.7	104.1	113.5	126.4	71.9	68.8	5.4	5.9
U. S. 379	113.4	+ 3.3	109.0	115.5	115.6	71.2	69.5	11.3	14.9
Ohio 3056	113.3	.0	104.2	117.8	117.9	75.4	71.4	3.9	14.6
U. S. 189 W	113.0	+ 1.6	104.2	114.4	120.5	73.5	69.9	4.5	26.0
Ind. (H21 × 33-16) (27 × 61) W	113.0	+ .1	103.4	106.5†	129.0	71.7	72.2	6.2	12.5
Ohio 3091	112.4	+ .8	105.9	113.2	118.0	75.4	70.0	2.9	13.6
U. S. 239	111.8	+ 2.4	105.6	107.2	122.7	72.0	69.3	16.6	17.9
Ohio 3087	111.7	+ 1.6	110.6	108.7	115.8	75.9	69.5	2.6	23.7
U. S. 265	111.0	− 1.4	109.4	100.2	123.3	70.7	72.5	7.0	17.4
U. S. 264	109.8	− 3.4	101.7	104.5	123.3	70.9	71.9	10.0	15.0
U. S. 396	107.0	− 4.9	105.5	101.5	113.9	70.5	70.1	3.1	18.0
Ohio L94	106.4	− 3.7	97.9†	99.8	121.5	75.7	69.5	10.7	27.9
U. S. 13	105.9	+ 7.8	106.3	104.1	107.3	75.4	67.5	4.6	15.6
Indiana 901B W	105.4	− 6.0	103.2	93.0	120.1	73.3	69.9	19.9	13.6
Ind. (33-16 × K61) (H21 × K64) W	104.2	− 8.4	103.7†	92.5†	116.3	73.2	70.5	4.4	16.9
Ky. (11b × 114) (27 × 49) W	103.5	+ 1.4	99.9‡	107.3	103.4	72.6	75.3	6.0	9.4
Ohio 3070	102.1	− 9.8	101.0	98.7	106.5	74.3	70.1	4.0	4.5
Ohio C92	101.3	+ 3.2	107.7	90.9	105.4	76.8	67.5	3.0	14.7
U. S. 102	99.7	− 9.3	91.7	92.4	114.9	71.1	73.8	10.9	19.6
U. S. 360 W	98.9	−12.3	67.3	110.4†	119.1	74.2	73.1	20.6	17.7
Indiana 703B W	98.8	−10.6	99.3†	94.3	102.9	73.5	69.3	10.0	15.9
White Dent (Foster)	97.8	−14.5	85.6	91.9†	115.9	72.6	72.6	21.9	20.2
Pioneer 332	94.5	− 5.9	103.4	94.3	85.7	72.3	67.8	5.9	16.6
Kentucky 78B W	92.5	− 4.2	81.3†	87.1	109.2	69.6	76.2	5.9	15.8
Pioneer 300	90.7	−13.3	109.6	81.2	81.4	75.3	68.3	1.9	21.1

*W=White. †Four replications only. ‡Three replications only.

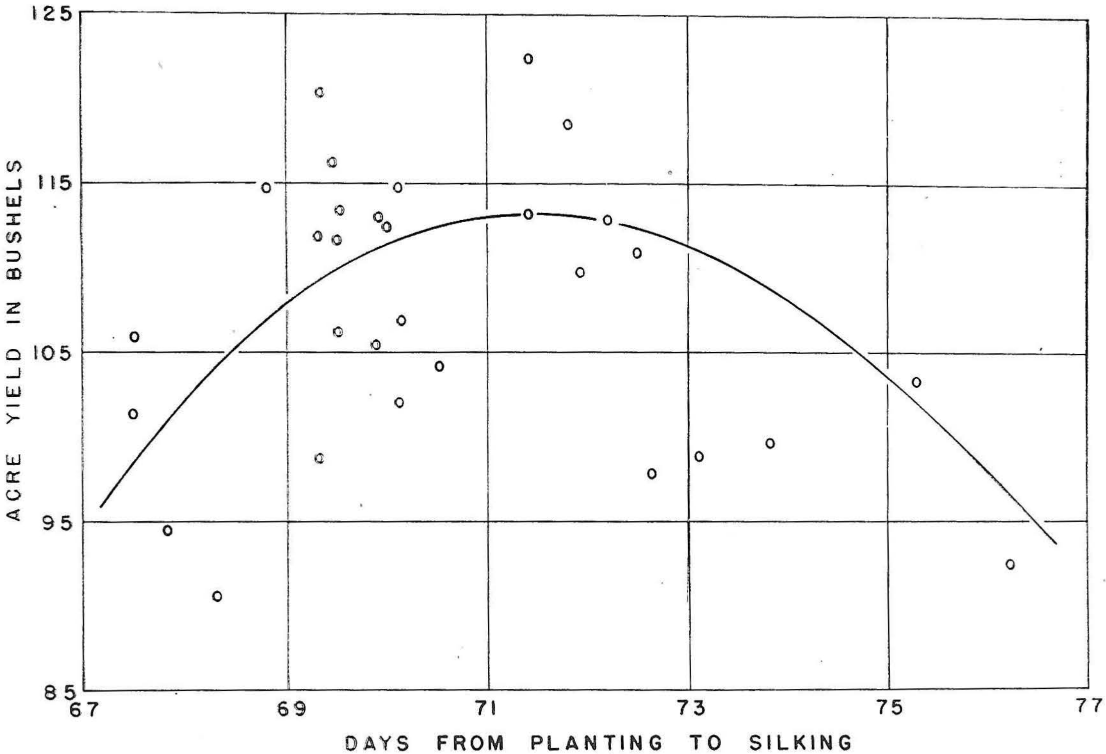

Fig. 9.—A graphic representation showing the relation of grain yield to the period from planting to silking, Test Division L. The trend of expected grain yields is shown by a freehand curve drawn about 2 bushels higher than the data as a whole would demand.

RECOMMENDED HYBRIDS FOR OHIO

None of the recommendations in table 11 are based upon the 1942 performance records alone. Neither does the list necessarily include all hybrids of merit being offered for sale in the State. It includes those hybrids that have good records of performance, whose pedigrees are published, and for which the procedures in seed production can be inspected and passed upon by the Ohio Seed Improvement Association.

The corn hybrids recommended are for grain production. For silage purposes, the grower should use a high-yielding grain hybrid 1 to 2 weeks later in maturity than the hybrids recommended for grain. U. S. 52, U. S. 13, and Ohio L94 are widely used for silage.

Since soil productivity, seasonal conditions, and management practices influence the time required for any hybrid to reach maturity, the terms "early", "midseason", and "full-season" as used here apply to good corn land in an average season. Earlier or later hybrids than those recommended may be desired for special conditions. The relative length of growing season is indicated by the letters in the hybrid name, M, K, W, C, and L, from earliest to latest. The difference between each letter group is approximately 3 days; that is, M hybrids reach maturity about 6 days earlier than W hybrids grown under the same conditions.

TABLE 11.—Recommended corn hybrids*

Area number (See map)	Early	Midseason	Full-season
1		Ohio M34 Ohio M20 Ohio M15	Ohio K24 Ohio K23 Ohio K35
2 and 3	Ohio M34 Ohio M20 Ohio M15	Ohio K24 Ohio K35 Ohio K23	Ohio W46 Ohio W54 Ohio W17 Iowa 939 Ohio W36 Ohio W30 Ohio W58 Ohio W10
4	Ohio K24 Ohio K35 Ohio K23	Ohio W54 Ohio W30 Ohio W17 Ohio W58 Ohio W10 Ohio W36 Ohio W46 Iowa 939	Ohio C28 Ohio C38 Ohio C48 Ohio C76 Ohio C88 Ohio C92 Ohio C50 Ohio C12 Illinois 384
5	Ohio W54 Ohio W30 Ohio W17 Ohio W58 Ohio W10 Ohio W36 Ohio W46 Iowa 939	Ohio C88 Ohio C38 Ohio C76 Ohio C50 Ohio C12 Ohio C92 Ohio C28 Ohio C48 Illinois 384	Ohio L86 U. S. 13
6	Ohio W10 Iowa 939 Ohio W36 Ohio W46 Ohio W54 Ohio W58	Ohio C12 Ohio C38 Ohio C48 Ohio C50 Ohio C76 Ohio C92	U. S. 13 Ohio L86
7	U. S. 13		

*Adapted from Bulletin 225, Agricultural Extension Service, The Ohio State University.

Fig. 10.—Adaptation areas for corn hybrids in Ohio (Revised January 1942)

By the Agricultural Extension Service of The Ohio State University, the Ohio Agricultural Experiment Station, and the Bureau of Plant Industry, Agricultural Research Administration, United States Department of Agriculture

The data presented in table 12 represent a condensed summary of the work with the recommended hybrids previous to 1942. The data were taken from "A Table of Condensed Data and Information on Corn Hybrids of Current Interest" by G. H. Stringfield, L. L. Huber, D. H. Bowman, and D. F. Beard. This table was mimeographed in February 1942 by the Agricultural Extension Service of The Ohio State University.

TABLE 12.—Summary of performance records of corn hybrids recommended for Ohio

1938 to 1941 inclusive

Hybrid	Acre yield above or below expected*	No. of tests†	Resistance to—						Corn borer tolerance
			Lodging from roots‡	Stalk breakage‡	Stalk rot	Leaf blight	Smut	Corn borer	
Ohio M15	+0.4	24	3.4	1.9	F	G	M	G	M
Ohio M20	+1.2	15	3.8	2.1	F	G	F	G	—
Ohio M34	+3.7	11	2.8	2.2	F	E	G	M	G
Ohio K23	— .5	24	3.8	2.5	M	G	M	F	M
Ohio K24	+7.7	15	3.5	2.1	G	G	M	M	M
Ohio K35	+4.5	25	4.0	2.8	G	G	G	P	G
Ohio W10	+4.4	10	3.8	2.2	G	G	G	G	M
Ohio W17	—1.5	77	2.9	.9	F	P	G	F	M
Ohio W30	+6.5	24	3.0	2.7	G	F	M	G	M
Ohio W36	+5.3	40	2.7	2.6	M	E	M	F	G
Ohio W46	+8.1	17	3.7	2.9	M	G	F	M	M
Ohio W54	+5.6	26	3.3	2.4	G	G	M	G	M
Ohio W58	+4.3	10	2.5	2.2	E	M	G	M	G
Illinois 384	—2.9	13	3.2	2.2	M	P	M	F	M
Iowa 939	+2.0	97	2.8	1.4	P	E	F	M	F
Ohio C12	+7.0	25	2.1	2.3	E	M	E	M	G
Ohio C28	+2.3	29	4.0	2.7	G	F	M	G	M
Ohio C38	+7.8	45	3.1	2.6	G	G	G	G	E
Ohio C48	+1.1	26	3.3	2.5	G	M	F	M	M
Ohio C50	+2.1	20	2.4	2.8	G	M	F	M	G
Ohio C76	+4.4	39	3.1	2.9	G	M	G	G	G
Ohio C88	+6.4	28	2.5	3.0	G	F	M	G	G
Ohio C92	+3.0	34	3.6	2.8	E	P	M	M	G
Ohio L86	+4.0	27	2.6	1.8	G	G	G	G	M
U. S. 13	+6.3	50	3.3	1.7	G	G	M	M	M

*The expected acre yield was dependent upon the silking date. It was the regression (trend) of acre yield for different silking dates as shown in comparable tests by the following series of hybrids: Ohio M15, Ohio K23, Ohio K35, Ohio W17, U. S. 65, Iowa 939, U. S. 44, U. S. 13, and U. S. 102.

†Applies to acre yield only.

‡Averages of numerical ratings in which zero was poorest and 4 was best.

E=Excellent, G=Good, M=Medium, F=Fair, P=Poor.

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